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NAVFAC IGS-09250 (MAY 2002)  
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Preparing Activity: LANTNAVFACENGCOM Based on UFGS-09250N

ITALIAN GUIDE SPECIFICATIONS

Use for ITALIAN projects only

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SECTION 09250

GYPSUM BOARD  
05/02

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NOTE: This guide specification is issued by the  
Atlantic Division, Naval Facilities Engineering  
Command for regional use in Italy.

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NOTE: This guide specification includes the  
requirements for gypsum board, cementitious backer  
units, and accessories intended for use in drywall  
construction.

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NOTE: On the drawings, show:

1. Locations of each type of gypsum board, backing  
board and cementitious backer units, using same  
terminology as in the specification.

2. Locations and design numbers for fire rated  
gypsum board and cementitious backer unit assemblies.

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NOTE: Comments and suggestion on this specification  
are welcome and should be directed to the technical  
proponent of the specification. A listing of the  
technical proponents, including their organization  
designation and telephone number, is on the Internet.

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer  
choices or locations where text must be supplied by  
the designers.

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## PART 1 GENERAL

### 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

#### ITALIAN NATIONAL ASSOCIATION FOR UNIFICATION OF STANDARDS (UNI)

UNI 5371	(1984) Gypsum Rock for Manufacture of Binders - Classification, Requirements and Tests
UNI 7678	(1977) Elements of Building Construction - Fire Resistance Tests
UNI 9154/1	(1988) Building - Internal Partition and Related Finishing Execution Criteria of Partition Made by the Plasterboard on Metallic Structure

#### ITALIAN LAWS AND NORMS

D.M. n. 266-26.6	(1984) Classification of Resistance to Fire and Ratification of Materials for Fire Prevention
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#### INTERNATIONAL ORGANIZATION OF STANDARDIZATION (ISO)

ISO 834	(1975) Fire-Resistance Tests - Elements of Building Construction
ISO 1587	(1975) Gypsum Rock for the Manufacture of Binders - Specifications

### 1.2 SUBMITTALS

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**NOTE:** Submittals must be limited to those necessary for adequate quality control. The importance of an item in the project should be one of the primary factors in determining if a submittal for the item is required.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Recommended codes for Army projects are "RE" for Resident Engineer approval, "ED" for Engineering approval, and "AE" for Architect-Engineer approval. Codes following the "G" typically are not used for Navy projects.

Submittal items not designated with a "G" are considered as being for information only for Army projects and for Contractor Quality Control approval for Navy projects.

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Submit the following in accordance with section entitled "Submittal Procedures."

#### SD-03 Product Data

Cementitious backer units

Accessories

Submit for each type of gypsum board and for cementitious backer units.

#### SD-04 Samples

Samples of material proposed for use shall be approved by the Contracting Officer. Submit the following samples:

Gypsum Board: One 30 x 30-centimeter sample of each type (showing finished edge)

Screws/Fasteners: Six of each type and size

Adhesives: Manufacturer's data and 1/2 liter can

Joint Treatment Materials: Manufacturer's data and 60 centimeters of tape

Corner Beads: One meter length

Joint Compound: One 1/2 liter can

Submit for each color and pattern of predecorated gypsum board. Where colors are not indicated, submit color selection samples of not less than eight of the manufacturer's standard colors.

### 1.3 DELIVERY, STORAGE, AND HANDLING

#### 1.3.1 Delivery

Deliver materials in the original packages, containers, or bundles with each bearing the brand name, applicable standard designation, and name of manufacturer, or supplier.

#### 1.3.2 Storage

Keep materials dry by storing inside a sheltered building. Where necessary to store gypsum board and cementitious backer units outside, store off the ground, properly supported on a level platform, and protected from direct exposure to rain, snow, sunlight, and other extreme weather conditions. Provide adequate ventilation to prevent condensation.

#### 1.3.3 Handling

Neatly stack gypsum board and cementitious backer units flat to prevent sagging or damage to the edges, ends, and surfaces.

### 1.4 ENVIRONMENTAL CONDITIONS

#### 1.4.1 Temperature

Maintain a uniform temperature of not less than 10 degrees C in the structure for at least 48 hours prior to, during, and following the application of gypsum board, cementitious backer units, and joint treatment materials, or the bonding of adhesives.

#### 1.4.2 Exposure to Weather

Protect gypsum board and cementitious backer unit products from direct exposure to rain, snow, sunlight, and other extreme weather conditions.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

The following Manufacturers make products that comply with this specification

- a. SEBERG S.r.l.  
Via delle Noci  
24048 - Treviolo (Bergamo)  
Tel. 035/203098  
Fax 035/203133
- b. CIRCRESPI S.p.A.  
Via Trieste, 11  
20060 Liscate (Milano)  
Tel. 02/95754259  
Fax 02/9587203
- c. KNAUF  
31050 Villorba (TV)  
Tel. 0422/608270  
Fax 0422/608696

d. PLACO  
Via Castel Morrone, 18  
20129 - Milano  
Tel. 02/29404038  
Fax 02/2046527

## 2.1 MATERIALS

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**NOTE: Check UNI 9154/1 for details of materials,  
fasteners, and application.**  
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Conform to specifications, standards and requirements specified herein.  
Provide gypsum board manufactured from asbestos-free materials.

### 2.1.1 Gypsum Board

UNI 9154/1, UNI 5371, ISO 1587.

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**NOTE: Gypsum board 18 mm thick is mostly used for  
fire protection of steel structures or to add  
rigidity to a partition wall.**  
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#### 2.1.1.1 Regular

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**NOTE: In the design of shaft walls, verify thickness  
of shaftliner material with tested assembly  
requirements.**  
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1200 mm wide, [12.5] [15] [18] mm thick, [tapered] [tapered and featured]  
edges.

#### 2.1.1.2 Foil-Backed

1200 mm wide, [12.5] [15] [18] mm thick, [tapered] [tapered and featured]  
edges.

#### 2.1.1.3 Fire Resistant Type

ISO 834. 200 mm wide, [12.5] [15] [18] mm thick [tapered and featured]  
edges.

### 2.1.2 Gypsum Backing Board

In accordance with gypsum board manufacturer.

#### 2.1.2.1 Regular

1200 mm wide, [12.5] [15] [18] mm thick, square edges.

#### 2.1.2.2 Foil-Backed

1200 mm wide, [12.5] [15] [18] mm thick, square edges.

#### 2.1.2.3 Fire Resistant Type

ISO 834. 1200 mm wide, [12.5] [15] [18] [20] [25] mm thick, square edges.

#### 2.1.3 Water-Resistant Gypsum Backing Board

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NOTE: For adhesive applied ceramic tile in wet areas (tubs, shower enclosures, saunas, steam rooms, gang shower rooms), do not specify water-resistant gypsum backing board as the substrate; instead, specify cementitious backer units. Specify water-resistant gypsum backing board for all other tiled areas including areas where only ceramic or quarry tile base is to be installed, and for ceilings in humid areas.  
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Water-resistant gypsum backing board shall be as recommended by gypsum board manufacturer.

##### 2.1.3.1 Regular

1200 mm wide, [12.5] [15] [18] mm thick, tapered edges.

##### 2.1.3.2 Fire Resistant Type

ISO 834. 1200 mm wide, [12.5] [15] [18] mm thick, square or tapered edges.

#### 2.1.4 Predecorated Gypsum Board

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NOTE: If the optional phrase "as selected" is not used to designate a color (and pattern), insert a manufacturer's name and color (and pattern) designation in the blank and add the following to the end of this paragraph "The manufacturer's name and catalog designation are provided in order to describe the color (and pattern) desired. Other manufacturer's products having a similar color (and pattern) will be acceptable."  
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NOTE: Insert designations of rooms or areas in which different flame spread and smoke developed ratings are required.

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Regular gypsum board, 1200 mm wide, [12.5] [15] [18] mm thick, with a decorative wall covering [or coating] applied in-plant by the gypsum board manufacturer. The color [and pattern] of wall covering shall be [\_\_\_\_\_] [as selected]. [Edges shall be square with a slight bevel to produce a shallow vee joint. Wrap wall covering around edges.] Predecorated gypsum board, shall be in accordance with UNI 7678.

#### 2.1.5 Cementitious Backer Units

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**NOTE: For adhesive applied ceramic tile in wet areas (tubs, shower enclosures, saunas, steam rooms, gang shower rooms), do not specify water-resistant gypsum backing board as the substrate; instead, specify cementitious backer units.**

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Concrete glass fiber reinforced, minimum 13 mm thick prefabricated panel, consisting of aggregate portland cement reinforced with vinyl-coated woven glass-fiber mesh embedded in both surfaces. Panels shall have the following characteristics:

- a. Maximum variation from length or width of  $\pm 3.18$  mm in the size of one panel
- b. Support no growth of fungus or bacteria
- c. Square shape or rectangular shape with square edges and corners
- d. Maximum variation of thickness  $\pm 0.8$  mm

#### 2.2.5.1 Glass Fiber Tape

Coated glass fiber tape [with pressure sensitive adhesive] 50 mm wide.

#### 2.1.6 Joint Treatment Materials For Gypsum Board

In accordance with gypsum board manufacturer.

##### 2.1.6.1 Embedding Compound

Specifically formulated and manufactured for use in embedding tape at gypsum board joints and compatible with tape, substrate and fasteners.

##### 2.1.6.2 Finishing or Topping Compound

Specifically formulated and manufactured for use as a finishing compound.

##### 2.1.6.3 All-Purpose Compound

Specifically formulated and manufactured to serve as both a taping and a finishing compound and compatible with tape, substrate and fasteners.

#### 2.1.6.4 Setting or Hardening Type Compound

Specifically formulated and manufactured for use with fiber glass mesh tape.

#### 2.1.6.5 Joint Tape

Cross-laminated, tapered edge, reinforced paper, or fiber glass mesh tape recommended by the manufacturer.

#### 2.1.7 Fasteners

##### 2.1.7.1 Nails

For predecorated gypsum board provide special nails with factory coated heads of color to match wall covering materials as recommended by the predecorated gypsum board manufacturer.

##### 2.1.7.2 Screws

Steel drill screws for fastening gypsum board to gypsum board, wood framing members and steel framing members in accordance with UNI 9154/1.

##### 2.1.7.3 Staples

1.5 mm thick flattened galvanized wire staples with 11.1 mm wide crown outside measurement and divergent point for base ply of two-ply gypsum board application. Use as follows:

<u>Length of Legs (mm)</u>	<u>Thickness of Gypsum Board (mm)</u>
28.6	12.5
31.8	15.0

#### 2.1.8 Adhesives

Do not use adhesive containing benzene, carbon tetrachloride, or trichloroethylene.

##### 2.1.8.1 Adhesive for Fastening Gypsum Board to Metal Framing

Type recommended by gypsum board manufacturer.

##### 2.1.8.2 Adhesive for Fastening Gypsum Board to Wood Framing

In accordance with gypsum board manufacturer's instructions.

##### 2.1.8.3 Adhesive for Laminating

For laminating two-ply gypsum board systems [and] [gypsum studs to face panels], provide adhesive recommended by gypsum board manufacturer.

#### 2.1.9 Gypsum Studs



25 mm minimum thickness and 150 mm minimum width. Studs may be of 25 mm thick gypsum board or multilayers laminated to required thickness. Conform to UNI 9154/1.

#### 2.1.10 Accessories

Fabricate from corrosion protected steel or plastic designed for intended use. Accessories manufactured with paper flanges are not acceptable. Flanges shall be free of dirt, grease, and other materials that may adversely affect bond of joint treatment. Provide prefinished or job decorated materials. [For predecorated gypsum board provide prefinished metal or plastic trim to match predecorated gypsum board.]

#### 2.1.11 Water

Clean, fresh, and potable.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

##### 3.1.1 Framing and Furring

Verify that framing and furring are securely attached and of sizes and spacing to provide a suitable substrate to receive gypsum board and cementitious backer units. Verify that all blocking, headers and supports are in place to support plumbing fixtures and to receive soap dishes, grabbars, towel racks, and similar items. Do not proceed with work until framing and furring are acceptable for application of gypsum board and cementitious backer units.

##### 3.1.2 [Gypsum Board] [and] [Framing]

Verify that surfaces of [gypsum board] [and] [framing] to be bonded with an adhesive are free of dust, dirt, grease, and any other foreign matter. Do not proceed with work until surfaces are acceptable for application of gypsum board with adhesive.

##### 3.1.3 [Masonry] [and] [Concrete] Walls

Verify that surfaces of [masonry] [and] [concrete] walls to receive gypsum board applied with adhesive are dry, free of dust, oil, form release agents, protrusions and voids, and any other foreign matter. Do not proceed with work until surfaces are acceptable for application of gypsum board with adhesive.

#### 3.2 APPLICATION OF GYPSUM BOARD

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NOTE: Coordinate with the drawings to ensure that  
all types of gypsum board specified are indicated.  
Terminology on the drawings should be identical to  
that in the specifications.  
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Apply gypsum board to framing and furring members in accordance with UNI 9154/1 and the requirements specified herein. Apply gypsum board with separate panels in moderate contact; do not force in place. Stagger end joints of adjoining panels. Neatly fit abutting end and edge joints. Use gypsum board of maximum practical length. Cut out gypsum board as required to make neat close joints around openings. In vertical application of gypsum board, provide panels in lengths required to reach full height of vertical surfaces in one continuous piece. Surfaces of gypsum board and substrate members may be bonded together with an adhesive, except where prohibited by fire rating(s). Treat edges of cutouts for plumbing pipes, screwheads, and joints with water-resistant compound as recommended by the gypsum board manufacturer. Provide type of gypsum board for use in each system specified herein as indicated.

#### 3.2.1 Application of Single-Ply Gypsum Board to Wood Framing

Apply in accordance with gypsum board manufacturer's instructions.

#### 3.2.2 Application of Two-Ply Gypsum Board to Wood Framing

Apply in accordance with gypsum board manufacturer's instructions.

#### 3.2.3 Adhesive Nail-On Application to Wood Framing

Apply in accordance with gypsum board manufacturer's instructions.

#### 3.2.4 Semi-Solid Gypsum Board Partitions

Provide in accordance with manufacturer's instructions and UNI 9154/1.

#### 3.2.5 Solid Gypsum Board Partitions

Provide in accordance with manufacturer's instructions and UNI 9154/1.

#### 3.2.6 Adhesive Application to Interior Masonry or Concrete Walls

Apply in accordance with gypsum board manufacturer's instructions.

#### 3.2.7 Application of Gypsum Board to Steel Framing and Furring

Apply in accordance manufacturer's instructions and UNI 9154/1.

#### 3.2.8 Arches and Bending Radii

Apply gypsum board in accordance with gypsum board manufacturer's instructions.

#### 3.2.9 Water Resistant Gypsum Backing Board

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**NOTE: For adhesive applied ceramic tile in wet areas (tubs, shower enclosures, saunas, steam rooms, gang shower rooms), do not specify water-resistant**

gypsum backing board as the substrate; instead, specify cementitious backer units. Specify water-resistant gypsum backing board for all other tiled areas including areas where only ceramic or quarry tile base is to be installed.

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In dry areas (areas other than tubs, shower enclosures, saunas, steam rooms, gang shower rooms), apply water-resistant gypsum backing board in accordance with manufacturer's instructions and UNI 9154/1.

#### 3.2.10 Exterior Application

Apply gypsum soffit board in accordance with manufacturer's instructions and UNI 9154/1.

#### 3.2.11 Floating Interior Angles

Locate the attachment fasteners adjacent to ceiling and wall intersections in accordance with UNI 9154/1, for [single-ply] [and] [two-ply] applications of gypsum board to wood framing.

#### 3.2.12 Control Joints

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**NOTE: Indicate the location of all control joints on drawings.**

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Install manufactured expansion and contraction joints in ceilings and walls at locations as listed below and in accordance with UNI 9154/1, unless indicated otherwise.

##### 3.2.12.1 Required Control Joint Locations

- a. Building Expansion Joints: In partitions that traverse a structural building expansion joint.
- b. Walls: Walls that run in an interrupted straight plane more 9100 mm.
- c. Ceilings with Perimeter Relief: Space control joints so they do not exceed 15000 mm in linear dimension or 230 m<sup>2</sup> in total areas.
- d. Ceilings Without Perimeter Relief for Exterior Soffits: Space control joints so they do not exceed 9100 mm in linear dimension and 84 m<sup>2</sup> in total area.

#### 3.2.13 Application of Foil-Backed Gypsum Board

Apply foil-backed gypsum board in accordance with UNI 9154/1 and gypsum board manufacturer's instructions.

#### 3.2.14 Application of Predecorated Gypsum Board

Apply predecorated gypsum board in accordance with gypsum board manufacturer. Attach predecorated gypsum board with adhesive and fasteners as recommended by the manufacturer. Conceal fasteners in the finished work.

### 3.3 APPLICATION OF CEMENTITIOUS BACKER UNITS

#### 3.3.1 Application

In wet areas (tubs, shower enclosures, saunas, steam rooms, gang shower rooms), apply cementitious backer units in accordance with cementitious backer unit manufacturer's instructions. Install horizontally, with end joints over framing members. Secure to each framing member with screws spaced not more than 200 mm on center and not closer than 10 mm from the edge. Install screw heads flush with the surface of the board.

#### 3.3.2 Joint Treatment

Fill horizontal and vertical joints and corners with either organic adhesive, dry-set portland cement, or latex-portland cement mortar. Apply glass fiber tape over joints and corners and embed with same mortar or adhesive, in accordance manufacturer's instructions.

### 3.4 FINISHING OF GYPSUM BOARD

Tape and finish gypsum board in accordance with UNI 9154/1. Provide joint, fastener depression, and corner treatment. Do not use fiber glass mesh tape with conventional drying type joint compounds; use setting or hardening type compounds only. Provide treatment for water-resistant gypsum board as recommended by the gypsum board manufacturer.

#### 3.4.1 Skim Coat

Wherever gypsum board is to receive eggshell, semigloss or gloss paint finish, apply a thin skim coat of joint compound to the entire gypsum board surface, after the three-coat joint and fastener treatment is complete and dry. Apply skim coat with trowel, broadknife or long-nap roller. Wipe tightly with trowel or broadknife.

#### 3.4.2 [Metal Trim for Predecorated Gypsum Board

Finish edges, ends, and joints of predecorated gypsum board, except prefinished vee joints and monolithic type joints, with metal or plastic trim selected to match the gypsum board finish.]

### 3.5 SEALING

Seal openings around pipes, fixtures, and other items projecting through gypsum board and cementitious backer units as specified in Section 07920, "Joint Sealants." Apply material with exposed surface flush with gypsum board or cementitious backer units.

### 3.6 FIRE-RESISTANT ASSEMBLIES

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NOTE: Coordinate with the drawings to ensure that  
fire rating design numbers are indicated for  
fire-resistant assemblies.  
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D.M. n. 266-26.6, UNI 7678. Wherever fire-rated gypsum board construction is indicated, provide materials and application methods, including types and spacing of fasteners, in accordance with the specifications contained in [fire rated gypsum board for the Design Number(s) indicated], [or] [for the File Number(s) indicated].

#### 3.6.1 Tested Assemblies

Rated assemblies shall be tested in accordance with ISO 834 or an independent testing agency, as approved by local authorities having jurisdiction.

#### 3.7 PATCHING

Patch surface defects in gypsum board to a smooth, uniform appearance, ready to receive finish as specified. [Remove predecorated gypsum board which cannot be restored to like-new condition. Provide new predecorated gypsum board.]

-- End of Section --